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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,926	03/12/2001	Salvatore Melis	Q63447	7232

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EXAMINER

BURCH, MELODY M

ART UNIT PAPER NUMBER

3683

DATE MAILED: 04/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/802,926

Applicant(s)

MELIS, SALVATORE

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 1/17/03 have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(f) states that no amendment may introduce new matter into the disclosure of an application. The original disclosure does not support the showing of the miscellaneous elements shown in addition to the pair of mechanical operating members.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification lacks support for the term "control means" as first claimed in line 2 of claim 3. Examiner recommends using consistent terminology to avoid possible confusion since the electronic control unit may also be considered as a control means.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Re: claims 2-11. The phrase "The operating unit" in line 1 of the claims lacks proper antecedent basis. Examiner notes that "a unit" was previously recited.

Re: claim 4. The phrase "an electronic control unit operatively interposed between the control means and sensor means which can detect" is indefinite. It is unclear to the Examiner whether Applicant intends for the phrase "which can detect" to refer to the electronic control unit or the sensor means.

Re: claims 7 and 11. It is unclear to the Examiner whether the "a cable", "a flexible cable" and "a respective push-pull cable" in the claims are different or the same as or representing portions of the elongate mechanical transmission elements of claims 1 and 3. Clarification is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 1630076 to Schmidt in view of US Patent 6348023 to Martelli.

Re: claims 1-3 and 12. Schmidt shows in figure 1 a unit 1 for operation of a motor-vehicle gearbox 22 having a pair of mechanical operating members 25 for selection and engagement, respectively, the combined movement of which brings about

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the engagement of one of a selected transmission ratio of the gearbox, the unit comprising actuator means 11,12,17 shown in figure 2 which can control via elements 23 the combined movement of the mechanical operating member in response to the position of remote gearshift means 2 of the gearbox, wherein the actuator means are remote from the gearbox and are connected to the mechanical operating members by means of elongate mechanical transmission elements 19,27, but fails to disclose a servo-assisted operation of the gearbox.

Martelli teaches in lines 4-6 of the abstract the use of a gearbox of a motor vehicle being operated in a servo-assisted manner in addition to the manual control (shifter 17, pedal 22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the gearbox of Schmidt to have included operation in a servo-assisted manner in addition to the manual control (shifter 6 and the shift linkage), as taught by Martelli, in order to provide a means of enabling the selection and engagement of the gears independently from the manual control which introduces a level of redundancy in the gearbox control system and improves system reliability.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of Martelli as applied to claim 3 above, and further in view of US Patent 6196078 to DeJonge et al. Schmidt, as modified, describes the invention substantially as set forth above, but does not disclose the limitation of the electronic control unit being operatively interposed between the control means and sensor means. DeJonge et al. teach in figure 1 the use of a gearbox operating unit 20,24 including an electronic

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control unit 23 operatively interposed between a control means 26 and sensor means 24' which can detect the instantaneous position of remote gearshift means 24" of the gearbox 21, the control unit being arranged to process the signals coming from the sensor means and to send operating signals to the control means in order to bring about the movement of an elongate transmission element 22 in a manner such that the element brings about the engagement of a transmission ratio of the gearbox which corresponds to the instantaneous position of the remote gearshift means. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the unit of Schmidt, as modified, to have included sensor means and an electronic control unit interposed between the sensor means and the control means, as taught by DeJonge et al., in order to provide a means of sensing the position of gearshift means 2 and to provide a means of controlling the actuator/control means of the unit based on the sensed position to effect gear movement in the transmission gearbox.

8. Claims 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of Martelli and US Patent 6196078 to DeJonge et al. as applied to claim 4 above, and further in view of US Patent 6052283 to Kawakita.

Re: claims 5 and 6. Schmidt shows in figure 1 the use of a remote gearshift means 2 and actuator means 11,12,17 as shown in figure 2 being disposed in an environment separated from the engine compartment shown below fireproof partition 20, elongate mechanical transmission elements being disposed predominantly in the

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engine compartment, but does not show the limitation of the electronic control unit being arranged in an environment separated from the engine compartment.

Kawakita teaches in col. 1 lines 13-24 the use of an electronic control unit being mounted in the passenger compartment of a vehicle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the unit of Schmidt, as modified, to have included the electronic control unit in an environment separated from the engine compartment, as taught by Kawakita, in order to provide a means of preventing the components from coming in contact with the excessive heat, water, and dirt typical to the engine compartment to help maintain the reliability of the electronic components of the electronic control unit.

Re: claim 7. Schmidt shows the fireproof partition 20 constituting a reaction element for a sheath 27 for the sliding of a cable 19 of a respective push-pull cable.

9. Claims 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of Martelli as applied to claim 3 above, and further in view of US Patent 5590744 to Belmond.

Re: claim 8, 9, and 11. Schmidt, as modified, describes the invention substantially as set forth above, but fails to disclose the limitation of electromechanical elongate element controlling means. Belmond teaches in figure 1 the use of a means for controlling the movement of elongate elements 8,9 being of an electromechanical type including an electric motor 16 which can rotate a cylindrical casing 3a,3b having an internal thread in engagement with a screw element 4,5 (the screw element includes a coaxial and integral shaft or cylindrical portion of the screw element having the function

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of a rectilinear guide for the movement of the screw element, particularly the external threads of the screw element, relative to the internal thread of the cylindrical casing, an end of the coaxial shaft being connected via element 12 to an end of a flexible cable 8,9 of a respective push-pull cable 8,13,9,14) connected to an end of respective elongate elements 8,9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the hydraulic means for controlling the elongate elements of Schmidt, as modified, to have included an electromechanical type, as taught by Belmond, in order to provide an alternate source of power to effect translation of the elongate members to effect gear changes in the transmission gearbox. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the actuator/control means such that it included an electric motor for each of the elongate elements in order to provide redundancy which maintains the function of at least one actuator/control means in the presence of failure of another actuator/control means.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of Martelli and US Patent 5590744 to Belmond as applied to claim 9 above, and further in view of US Patent 6240797 to Morishima et al. Schmidt, as modified, teaches the use of the electric motor having a drive shaft 10 to which a pinion 15 is keyed, the pinion meshing with a ring gear 2 connected to the outer surface of the cylindrical casing 3a,3b (See Belmond figure 1), but does not include the limitation of a gear rotating with another gear. Morishima et al. teach in figure 1 the use of an drive shaft to which a pinion 12 is keyed, the pinion meshing with a gear (in the area of the lead line

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associated with element number 10) connected for rotation with another gear (in the area to the left of the lead line associated with element number 10 shown to mesh with element 9) which meshes with a ring gear 9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the gear train of Schmidt, as modified, to have included a gear and another gear, as taught by Morishima et al., in order to provide a means achieving a desired gear ratio as determined by routine experimentation which, in turn, effects the translation characteristics of the elongate mechanical transmission elements.

Response to Arguments

11. Applicant's arguments, see remarks on pg. 9, filed 1/17/03, with respect to the rejection(s) of claim(s) 1 under 35 USC 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schmidt as modified by Martelli.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 4886151 to Muller et al., 5080207 to Horneffer, and 6480776 to Stafner teach the use of similar servo-assisted operated gearbox devices.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 3/25/03
mmb
March 25, 2003

M. C. Graham
3.26.2003
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310